Appendices

NOTE: All Appendices are available on the CD accompanying this document (not printed)

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Appendix 1a

NSW Office of Environment and Heritage Feedback re Water Pipeline Realignment and Impacts to Native Vegetation for the Dubbo Zirconia Project, Toongi NSW (OzArk, 19 December 2013)

(Total No. of pages including blank pages = 8)

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OzArk Environmental & Heritage Management Pty Ltd
ABN: 59 104 582 354

19th December 2013

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RE: NSW Office of Environment and Heritage Feedback re Water Pipeline Realignment and Impacts to Native Vegetation for the Dubbo Zirconia Project, Toongi NSW.

1 INTRODUCTION

The OEH has reviewed the EIS and development application against the requirements of the *National Parks & Wildlife Act 1974* (NPW Act), *Threatened Species Conservation Act 1995* (TSC Act) and *Native Vegetation Conservation Act 2003* (NVC Act). These Acts consider the assessment of impacts of developments on matters of Aboriginal cultural heritage, threatened biodiversity, as well as native flora and fauna management issues more generally. The various issues raised concerning the Macquarie River Water Pipeline are paraphrased below and responded to, with additional information provided by OzArk where required.

2 MACQUARIE RIVER WATER PIPELINE (MRWP) VEGETATION

2.1 OEH WROTE:

1. *Identification of vegetation communities along water pipeline*

   Section 5.2.3 of the Terrestrial Ecology Report describes the Macquarie River Water Pipeline easement as passing through predominantly cropped and grazed paddocks. Section 4.6.2.3 indicates that additional surveys were conducted by OzArk over the Macquarie River Water Pipeline easement.

   The description of vegetation communities along the route of the proposed Macquarie River Pipeline (Section 5.2.3 of the Terrestrial Ecology Report) largely relies on results from surveys conducted in 2002, and provides limited detail regarding the vegetation communities along this easement. Indeed, this section states, ...

Recommendations

1.1 *That the vegetation communities along the Macquarie River Pipeline easement be clearly*

identified, mapped and quantified consistent with BBAM

1.2 Any native vegetation to be impacted along the Macquarie River Pipeline easement should be offset as part of the overall Biodiversity Offset Strategy.

3 RESPONSE:

3.1 POINT 1.1

Wording in OzArk (2013a) may have lead OEH to believe OzArk did not assess the MRWP in detail in 2013. Due to the time lapse between Cunningham's 2002 assessment and OzArks engagement, the OzArk team assessed the entire length of the MRWP including repeat visits to assess minor pipeline re-alignments. Although OzArk had a complete understanding of the nature and extent of native vegetation along the MRWP we addressed this in the report by simply concurring Cunningham's survey results were still applicable. Cunningham is a highly recognised and reputable regional ecologist. Provision of limited data in OzArk (2013a) reflected an intensively cultivated agricultural landscape within the MRWP alignment.

In response to OEH needing a greater degree of confidence for vegetation mapping along the MWWP, OzArk has provided:

- Finer scale mapping along the length of MRWP that better shows the nature and extent of ground surface disturbance / cropping agriculture discussed in OzArk (2013a). Mapping has been provided as a table at the end of this document.
- Five flora species / habitat assessment plots along the MRWP were assessed on the 12th of December 2013. These plots have been provided as **Attachment 1** to this letter. The plots were placed into representative environments during re-assessment of the entire pipeline length. Reassessment was aimed at detecting remnants of native communities not previously recorded in OzArk (2013a) as requested by OEH.

The December 2013 assessment concluded there are no native vegetation communities according to the Biometric classification system along the length of the MRWP. All land is subject to annual / biannual cropping agriculture. The lower stratum was on all occasions comprised of less than 50% indigenous species.

The northern most end of the MRWP was realigned at landholder request in December 2013 to avoid proposed irrigation infrastructure. OzArk assessed the areas, the northern, straight ahead section is the MRWP the north-western alignment crossing the creek is a powerline. The MRWP assessment

concluded that no trees (or root systems) would be affected[1] as impacts are outside any drip lines or requisite clear zones. Further, the ground stratum (that was mostly absent at inspection) in both areas consisted of Couch Grass (*Cynodon dactylon*) an exotic species and a mixture of agricultural improved pastures (i.e. Perennial Rye Grass) and weeds thus the impact footprint is not within a native vegetation community.

3.2 POINT 1.2

As native vegetation communities have not been identified along the MRWP offsetting is not requisite.

[1] Figure 5 provided a minor optical illusion where a shadow is case over the pipeline alignment looking like a tree will be affected. This is not the case and was ground truthed in the field, worst case scenario is lopping of one limb.

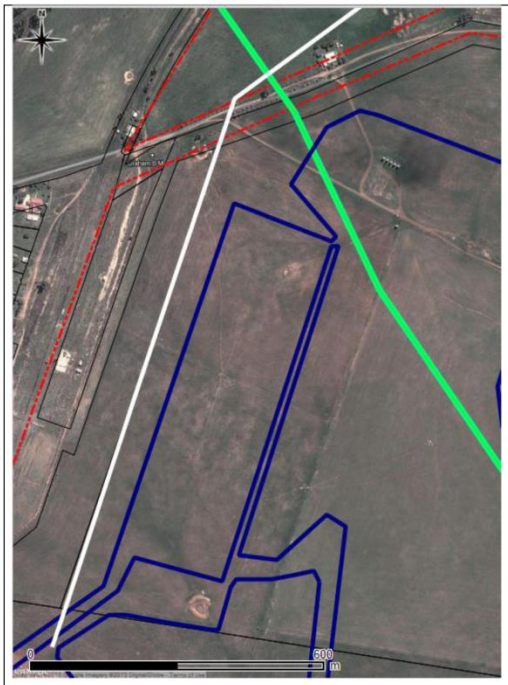

Figure 1: Processing plant (0 km) to 2050 km north toward Macquarie River.

- Land use – cropped.
- Areas mapped with native vegetation – nil.
- Trees to be affected – nil.

Key to figure:

- Red dash – dot line = Mine Site Boundary.
- White line = area assessed.
- Dark blue lines = component disturbance areas.
- Green line = IBRA boundary (Brigalow Belt Sth and SE Slopes).

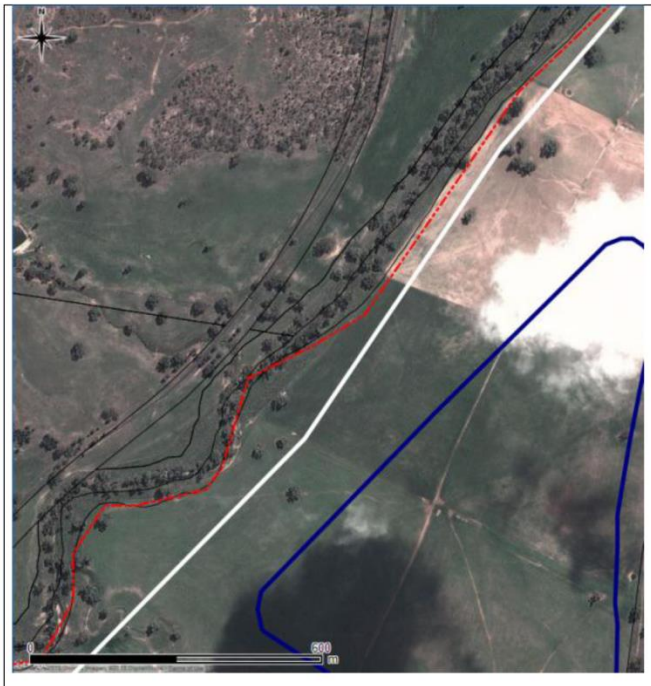

Figure 2: 2050 km to 3420 km north toward Macquarie River.

- Land use – cropped.
- Areas mapped with native vegetation – nil.
- Trees to be affected – nil.

Key to figure:

- Red dash – dot line = Mine Site Boundary.
- White line = area assessed.
- Dark blue lines = component disturbance areas.

Figure 3: 3420 km to 5054 km north toward Macquarie River.

- Land use – cropped.
- Areas mapped with native vegetation – nil.
- Trees to be affected – nil.

Key to figure:

- White ine = area assessed.

Figure 4: 5054 km to 6045 km north toward Macquarie River.

- Land use – cropped.
- Areas mapped with native vegetation – nil.
- Trees to be affected – nil.

Key to figure:

- White line = area assessed.
- Yellow(ish) line = Bennelong Rd

Figure 5: 6045 km to 8262 km north toward Macquarie River.

- Land use – cropped.
- Areas mapped with native vegetation – nil.
- Trees to be affected – nil.

Key to figure:

- White line = area assessed.

Figure 5: 8262 km to 9274 km (NW alignment) and 8526 km (north alignment) north toward Macquarie River.

- Land use – cropped.
- Areas mapped with native vegetation – nil.
- Trees to be affected – nil.

Key to figure:

- Labelled White line = MRWP assessed area.

Appendix 1b

Heritage Letter Report - Pipeline Realignment, Dubbo Zirconia Project, Toongi NSW (OzArk, 18 December 2013)

(Total No. of pages including blank pages = 14)

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18th December 2013

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Re: Heritage Letter Report - Pipeline Realignment, Dubbo Zirconia Project, Toongi NSW

Introduction

The Dubbo Zirconia Project (the Proposal) comprises the development, mining and processing of zirconium, niobium and rare earth element resources located near Toongi, approximately 25km south of the town of Dubbo (**Figure 1**). The Proposal includes a pipeline between the Macquarie River and the DZP Site (herein known as the Macquarie River Water Pipeline or MRWP; **Figure 2**). The Proposal is being assessed under Part 4.1 of the *Environmental Planning & Assessment Act 1979* (EP&A Act).

The alignment of the MRWP was previously assessed, along with all other areas of disturbance associated with the Proposal, and the results included in the Aboriginal Heritage Assessment (OzArk 2013a) which formed Part 7 of the Specialist Consultant Studies Compendium accompanying an Environmental Impact Statement prepared by R.W. Corkery & Co. Pty Limited (RWC, 2013). Following a request by the owner of the "Mia Mia" property over which the MRWP traverses, a minor realignment of the pipeline has been made (**Figure 3**). OzArk was engaged by RWC on behalf of Australian Zirconia Ltd (the Proponent) to undertake an Aboriginal heritage assessment of this minor realignment. The northern-most 3.7km of the MRWP realignment is the only section that deviates from the previously-assessed alignment and forms the 'Study Area'.

Proposed works

The proposed MRWP is approximately 7.6km in length, running from the Macquarie River to the Processing Area of the DZP Site. The easement to be created for the Macquarie River Water Pipeline Corridor would be approximately 15.2ha (20m x 7.6km), although the actual area of disturbance within this corridor would be much less. The key features of this are as follows.

- A pumping station which incorporates a dual water inlet, wet well and vertical mounted axial flow pump configuration. An area not exceeding 2,000m^2 would be disturbed.
- A 400mm to 450mm diameter HDPE pipeline within an embedded trench.

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FIGURE 1: LOCATION OF DZP SITE AND RELATED INFRASTRUCTURE.

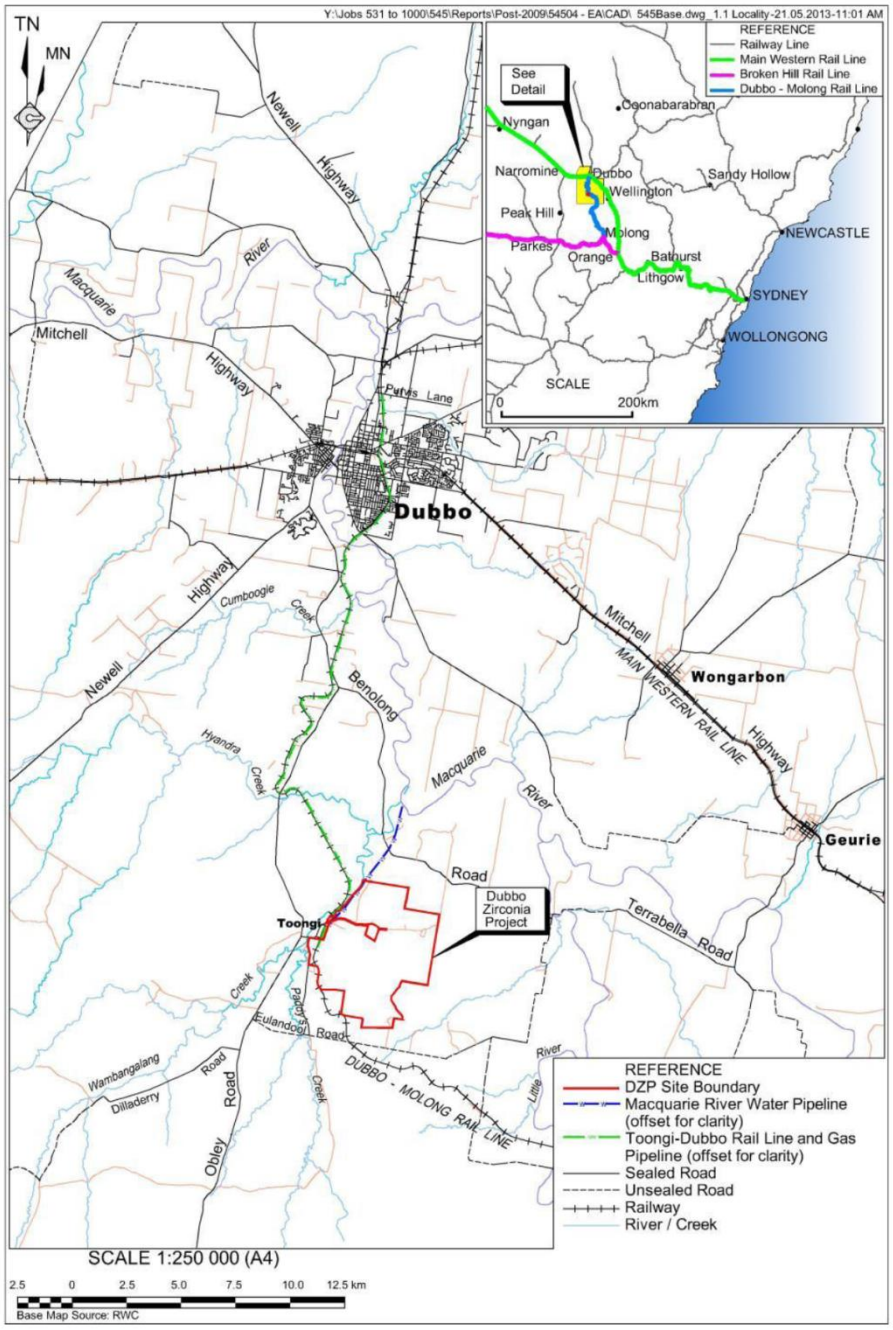


FIGURE 2: LOCATION OF THE MRWP IN RELATION TO THE DZP MINE SITE BOUNDARY.

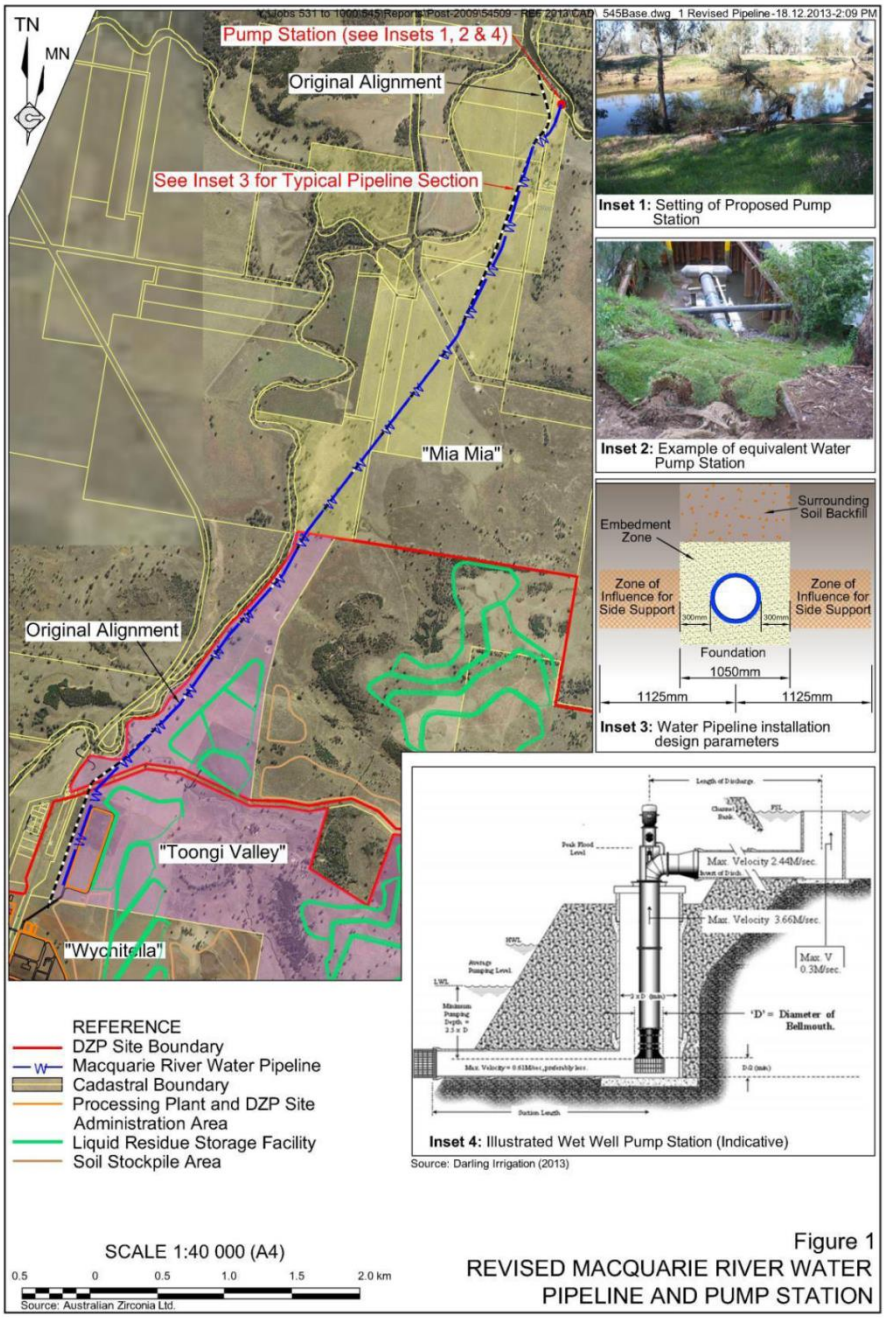
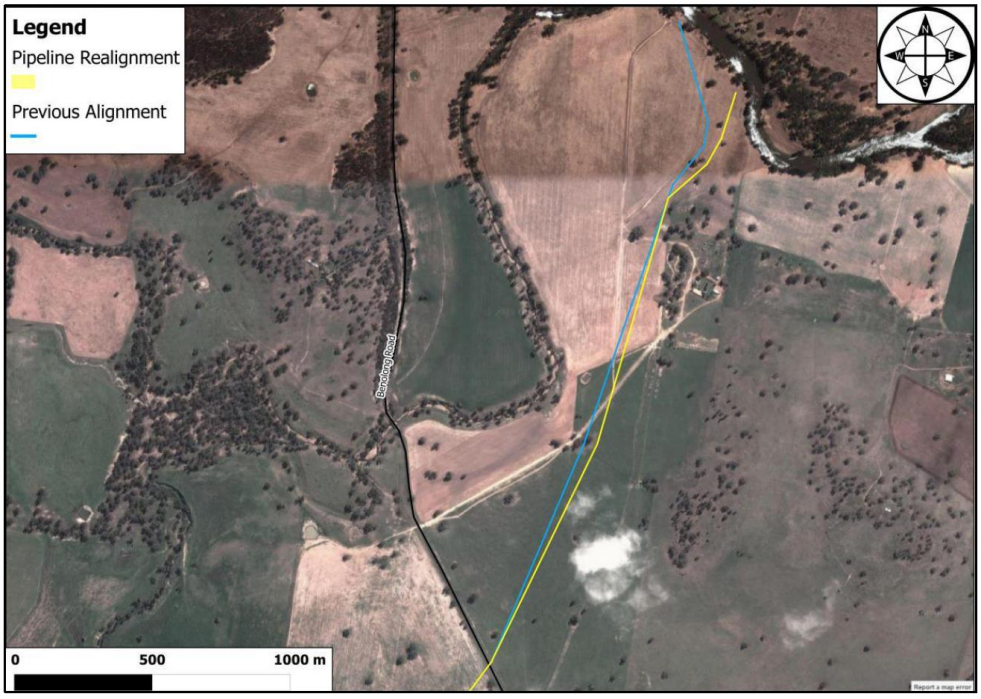


FIGURE 3: DEVIATION OF THE MRWP FROM THE PREVIOUS ALIGNMENT (THE STUDY AREA).



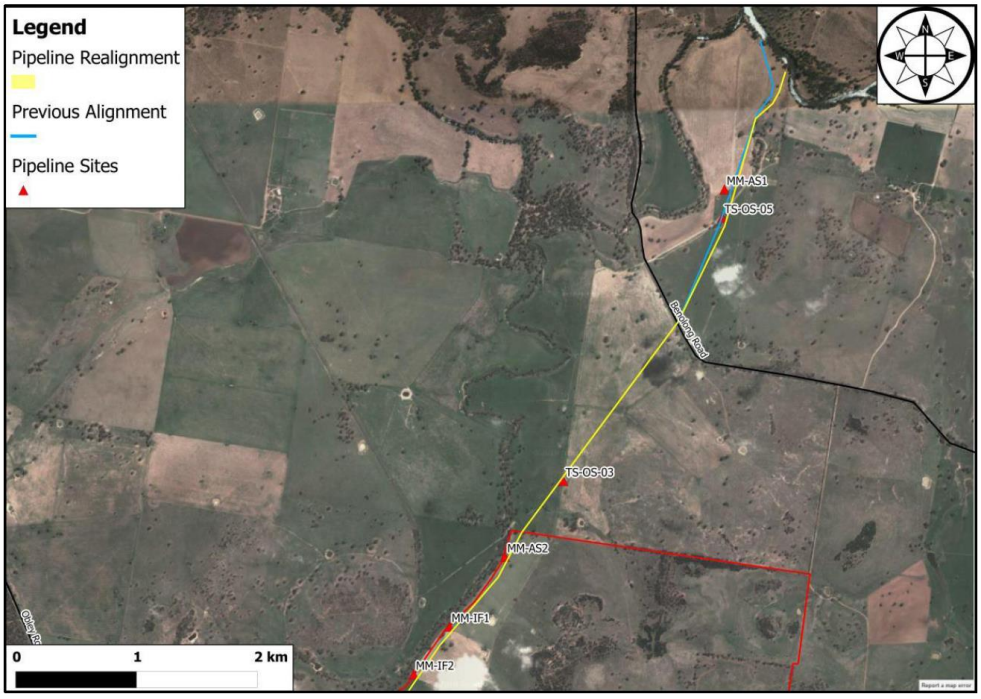
Project background

OzArk Environmental & Heritage Management Service (OzArk) was engaged to assess the impact areas for the Proposal in 2012. This included a background study of the area as well as archaeological survey (OzArk, 2013a). The assessment identified 52 sites, both previously and newly recorded, within the area of the Proposal. Six sites were located along the former alignment of the MRWP, two of which were directly within the impact footprint (**Figure 4**). These were previously-recorded sites #36-1-0356 (TS-OS-03 with PAD) and #36-1-0364 (TS-OS-05 with PAD)[1].

Test excavations were undertaken at TS-OS-03 with PAD and TS-OS-05 with PAD to investigate the possibility of intact sub-surface deposits (OzArk, 2013b). The test excavation revealed disturbed soil profiles and very few artefacts. It was concluded that sites TS-OS-03 with PAD and TS-OS-05 with PAD are surface sites and there is very low likelihood of intact, subsurface deposits associated with either site.

[1] These sites are primarily referred to by their NSW Office of the Environment and Heritage [OEH] Aboriginal Heritage Information Management System [AHIMS] ID numbers #36-1-0356 and #36-1-0364 in the Assessment report, but are here referred to by their site names.

FIGURE 4: LOCATION OF SITES ALONG THE MRWP.



Prior to the current assessment of the proposed realignment, the recommendations for the sites identified in the MRWP assessment were as follows.

- **Group 2a (Salvage)**: TS-OS-03 and TS-OS-05.

  These sites are to be harmed by the Proposal. Detailed recording and collection of artefacts within the pipeline corridor is recommended. Fencing along pipeline corridor where it intersects with the site is recommended.

- **Group 2c (Avoidance/Management):** MM-AS-01, MM-AS-02, MM-IF-01, and MM-IF-02.

  These sites are located nearby to the MRWP, but will not be impacted by the pipeline. However, the sites should be marked to avoid inadvertent impacts.

Archaeological assessment of proposed realignment

The existing assessment (OzArk, 2013a) and the results of a new survey were combined to form a new assessment of the Study Area. Several considerations are taken into account in forming the assessment of the proposed pipeline realignment.

- Regional and local archaeological contexts;
- Landscape potential for Aboriginal sites; and
- Location of sites along/nearby to the proposed alignment;
- Existing levels of disturbance;

The fieldwork for the realignment was conducted by Nick Harrop (Senior Archaeologist for OzArk) and Stephanie Rusden (Assistant for OzArk) on Thursday 12 December 2013. The realigned portion of the proposed pipeline was subjected to pedestrian survey. Overall ground surface visibility was good (40%) due to recent harvesting.

Archaeological Context and Landscape Potential

The archaeological context is provided in detail in the assessment (OzArk, 2013a). A review of the context provides a predictive model that attributes the likelihood of certain site types to general landscape features. When applied to the landforms present within the Study Area, the following conclusions are made.

- Open sites may be found on elevated terraces and low spurs close to water; such as the Macquarie River. These sites may be complex and/or extensive, where access to water is good and land is elevated.

  The proposed pipeline realignment is adjacent to the Macquarie River in sections, but the bank is very steep and access to water is poor and the land is flood prone (**Plate 1**).

- Scarred trees are frequently found close to creeks and rivers but also found further afield.

  Some mature trees are remnant along the Macquarie River, with scattered trees elsewhere, but most of the landscape has been cleared of trees. No scarred trees were noted within the Study Area.

- Grinding groove sites will only occur where there are appropriate outcropping sandstone formations, usually near water, and therefore may be found near any of the waterways in the Study Area.

  There is an outcropping of sandstone next to the Macquarie River where the proposed pipeline realignment crosses the river (**Plate 1**). No grinding evidence was identified on the sandstone.

- Isolated finds may occur anywhere, especially in disturbed locations near water sources or in areas close to ephemeral water – i.e. headwaters.

Existing Levels of Disturbance

The vast majority of the Study Area is within land that has been used for intensive agriculture (**Plate 2**). It has been ploughed and used for cattle grazing, and has been largely cleared.

Sites

No new sites were identified within the Study Area. One artefact was found nearby to the Study Area (**Plate 3**). It was near enough to MM-AS-01 to be considered part of that site, and the site boundary has been altered to include this artefact

The proposed pipeline realignment passes through a different portion of TS-OS-05 than the previous alignment (**Figure 5**). The centre-line passes approximately 5m to the east of the site, but surface impacts associated with construction will penetrate a 5m strip along the eastern edge of the site.

FIGURE 5: RELATIONSHIP OF TS-OS-05 AND MM-AS1.

Conclusion

No new sites were found within the realigned MRWP route Study Area during the field survey. A review of the archaeological context and application to the Study Area suggests that there is some possibility for sites to exist in the landscape, particularly closer to the Macquarie River. However, there are no particularly sensitive landforms within the Study Area and there was good ground surface visibility during the survey, so no undetected sites are anticipated. Furthermore, disturbance is high, and the test excavations conducted earlier in 2013 (OzArk, 2013b) suggests that there is very little chance of intact A-horizon soils within the Study Area.

Management recommendations

The management for the sites identified is unchanged for sites MM-AS-01, MM-AS-02, MM-IF-01, and MM-IF-02 as they are not to be impacted by the Proposal. Sites TS-OS-03 and TS-OS-05 will still be impacted by the pipeline, although the pipeline overlaps with a smaller portion of TS-OS-05 under the realigned design. Therefore the management remains the same for these sites as well.

In summary, the management suggested for the sites along the MRWP are as follows:

- **Group 2a (Salvage):** TS-OS-03 and TS-OS-05.

  These sites are to be harmed by the Proposal. Detailed recording and collection of artefacts within the pipeline corridor is recommended. Fencing along pipeline corridor where it intersects with the site is recommended.

  - An Aboriginal Cultural Heritage Management Plan (ACHMP), including a Statement of Commitments (SoC), documenting how each site is to be managed should be prepared following consultation undertaken in accordance with the *Aboriginal Cultural Heritage Consultation Requirements for Proponents 2010* (ACHCRs).
  - The ACHMP and SoC should include measures for the collection / salvage of surface artefacts from sites prior to works commencing.
  - A Care Agreement covering any artefacts from the salvage would be included in the ACHMP.
- **Group 2c (Avoidance/Management):** MM-AS-01, MM-AS-02, MM-IF-01, and MM-IF-02.

  These sites are located nearby to the MRWP, but will not be impacted by the pipeline. However, the sites should be marked to avoid inadvertent impacts.

- Proposed works should remain limited to the Application Area as assessed in the current report so as to eliminate the chance of encountering Aboriginal objects in unassessed areas.
- Should any other objects or Aboriginal sites be identified during the course of construction The Unanticipated Finds Protocol in the ACHMP should be followed.
- As this Proposal falls under Part 4 Division 4.1 of the EP&A Act, an AHIP is not required for the salvage of heritage sites if development consent is issued. Rather, approval for the undertakings should be sought though a Statement of Commitments and eventually incorporated into an Aboriginal Cultural Heritage Management Plan.

Regards,

Nick Harrop
Senior Archaeologist
OzArk Environment and Heritage Management Pty Ltd

References

OzArk 2013a — OzArk Environmental and Heritage Management Services 2013, Aboriginal Heritage Assessment, Dubbo Zirconia Project, report for R.W. Corkery & Co. Pty Ltd on behalf of Australia Zirconia Ltd.

OzArk 2013b — OzArk Environmental and Heritage Management 2013b, Archaeological Test Excavations, TS-OS3, TS-OS5, Dubbo Zirconia Project. report for R.W. Corkery on behalf of Australian Zirconia Ltd.

Plates

Plate 1: Banks of the Macquarie River and sandstone outcropping.

Plate 2: Disturbance levels within the Study Area.

Plate 3: Basalt core found nearby to the Study Area.

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Appendix 1c

Dubbo City Council Feedback re Obley Road Improvement Impacts to Native Vegetation for the Dubbo Zirconia Project, Toongi NSW (OzArk, 19 December 2013)

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RE: Dubbo City Council Feedback re Obley Road Improvement Impacts to Native Vegetation for the Dubbo Zirconia Project, Toongi NSW.

1 INTRODUCTION

Dubbo City Council reviewed the EIS and raised various issues concerning the proposed upgrade of Obley Road. As response to Councils concerns, and under instruction from R.W. Corkery & Co. Pty Limited on behalf of Australian Zirconia Ltd, OzArk assessed potential impacts to native vegetation assuming a 7.5 metre clear zone form edge of the travel lave (which would be 3.5 metre from the centreline).

2 OBLEY ROAD ASSESSMENT

In 2013, a six metre clear zone on straights and ten metre clear zone on corners was assessed to be consistent with the 2012 RMS / OzArk Newell Highway Safety Project (West Wyalong to Goondiwindi). On December 11th 2013, Constructive Solutions Pty Ltd re-issued design detail showing 7.5 metres on straits and 9-10 metres on corners. On 12th December 2013, Ms Heidi Kolkert (OzArk Senior Ecologist / PhD Candidate) assessed the Obley Road alignment from its Newell Highway junction to Toongi, NSW.

The OzArk ecologist took a printed colour copy of road design detail. The design was overlaid with chainages on an aerial image, a 20 metre hand held tape measure and a hand held GPS and assessed the entire length of the road requiring treatment. The ecologist measured any infrangible object that may have been within the 7.5 metre clear zone to determine the nature and extent of tree clearing and effect to national and / or state listed communities. The only constraint experienced during the assessment was Obley road does not have a painted

centreline or edge line in many places. In these instances measurements were taken from the approximate centre of the road.

Table 1 attached to this letter, provided details of the nature, extent and location of clearing.

Notably, the table demonstrates the 7.5 metre clear zone treatment requires only a small increase in the disturbance to vegetation within the road easement. Salient information has been provided below:

1. CW213 best represents the Obley Road corridor population. Finer scales of mapping could be used to split this community in the White Box dominated areas; Inland Grey Box dominated areas or area co-dominated by Fuzzy Box EECs.
2. OzArk (2013a) estimates 1.08 hectares to be affected by the activity.
3. Changes in the impact footprint (primarily associated with corners) will see 2.05 ha of CW213 White Box - White Cypress Pine - Inland Grey Box woodland on the western slopes of NSW (Benson 267) affected by the activity.
4. This represents an increase of 0.97 ha.
5. In terms of Biobanking offsetting, a value of 2.43 hectares was used to calculate impacts to the community in the ecology report (OzArk [2013a], Appendix 8, p6-251 Ecosystem Credit Summary, seventh row from the bottom). The precautionary principle was applied to consider cumulatively effects. A minimum value of 0.25 hectares (the minimum Biobanking value the calculator accepts) was used where the impact to a remnant native community was less than 0.25 ha.
6. Given the above native vegetation impacts and offsetting have already been considered in the EA and no further re-calculation is required.
7. Four individual trees and one circa 10 to 20 metre section of habitat has been recommended to avoid which is commensurate with possessing high habitat values of trees within the clear zone.
    - A large tree with owl breeding hollows (evidenced by feathers, white wash etc.) was observed adjacent to Obley Road in the impact footprint. The location of the tree is within 10m of GDA Zone 55 649657E / 6424038 N. The tree is a large Inland Grey Box with two owl breeding sized hollows. The tree is located between Ch 6000 and Ch6100. Its 7.5m from the edge line (the outside edge of the impact footprint). This area meets the criterion to consider protective wire rope to protect several large trees with high habitat values. Section length of the protective barrier would be about 10 to 20m. OzArk are informed that AZL has made a commitment to use wire rope safety barriers in lieu of the maximum clear zone where important habitat for threatened species is identified.

Table 1: Obley Road clearing evidence (7.5m CZ from edge line).

Road Section	Clear Zone required	Max Desktop Required	Chainage	Veg Community	EEC	Species	Size	Habitat Value	Distance EL /CL	Easting	Northing	No individuals	area	Recommendation
Road Section 1 (LHS 350-800)	7.5m EL	3375	350	CW213	Inland Grey Box Woodland	GB	Large	Medium	9.4m CL	649436.7	6428463	1		Avoid via barrier
			600-800	CW213	Inland Grey Box Woodland	WCP	Regen > 10m	Low	11m CL					Avoid
Road Section 2 (LHS 1100-1500)	7.5m EL	3000		Planted	None	Mallee	Mod	Low	Within CZ			5		
				CW213	Inland Grey Box Woodland	GB	Large	Medium	Within CZ			4		
				CW213	Inland Grey Box Woodland	GB	Mod	High	Within CZ			2		
Dundullimal Intersection Treatment			2290	CW213	Inland Grey Box Woodland	GB	Small	Low	Within CZ			4		
Road Section 3 (LHS 3450-4000) Curve	9m EL	4950	2500-3600	CW213	Inland Grey Box Woodland	GBW	Mixed	High	Within CZ				850	
			3800	CW213	Inland Grey Box Woodland	GB	small	Low	Within CZ			2		
			3980-4000	CW213	Inland Grey Box Woodland	WCP	Mod	Low	Within CZ				170	
Road Section 4 (RHS 4900-5600) Curve	9m EL	6300		CW213	Inland Grey Box Woodland	GB	Large	High	Within CZ	649642	6424053	1		
				CW213	Inland Grey Box Woodland	GB	Mod	Low	On corner	649642	6424053	3		
Road Section 5 (RHS 5950 - 6150)	9m EL	1800	4900-5600	CW213	Inland Grey Box Woodland	GB	Large	High	Within CZ	649642	6424053	1		Avoid
				CW213	Inland Grey Box Woodland	GB	Mod	Medium	On corner			3		
			5950-6100	CW213	Box Gum Woodland									

Road Section	Clear Zone required	Max Desktop Required	Chainage	Veg Community	EEC	Species	Size	Habitat Value	Distance EL /CL	Easting	Northing	No individuals	area	Recommendation
					(first 50m) / Inland Grey Box Woodland									
				CW213	Inland Grey Box Woodland	GB	Large	High	Within CZ	649657	6424038	1		Avoid
				CW213	Inland Grey Box Woodland	GB	Large	High	7.5m EL	649657	6424038	1		Avoid - two large owl hollows evidence of usage. Use wire rope barrier to protect.
				CW213	Inland Grey Box Woodland								800	Approx. first 5 m from EL is cleared, maintained ditch
Road Section 6 (LHS 6950-7400)	9m EL	4050	6950-7100	CW213	Inland Grey Box Woodland	mixed							150	
			7100-7200	CW213	Inland Grey Box Woodland	GBW	Mod/large	Low		650048	6422365	1		
				CW213	Inland Grey Box Woodland	GBW	Mod/large	Medium		650058	6422274	1		
			7200-7300	CW213	Inland Grey Box Woodland	GBW							700	
			7290	CW213	Inland Grey Box Woodland	GBW	Mod	Low	5.5m from EL			2		
			7400	CW213	Inland Grey Box Woodland	GB	Small	Low				1		
Road Section 7 (LHS 7500-7900)			7600	CW213	Inland Grey Box Woodland	GB	Small	Low	Within CZ	650059	6421938	6		
			7600	CW213	Inland Grey Box Woodland	WCP	Small	Low	Within CZ	650059	6421938			
			7600	CW213	Inland Grey Box Woodland	?	Small	Low	Within CZ	650059	6421938			
			RHS 7700-7900	CW213	Inland Grey Box Woodland	GBW		Low	Within CZ				1500	Avoid. At 11 m from CL
Road Section 8	7.5m EL	3000	9720	CW213	Inland Grey	GB	Small	Low	Within CZ	650181	6419726			

Road Section	Clear Zone required	Max Desktop Required	Chainage	Veg Community	EEC	Species	Size	Habitat Value	Distance EL /CL	Easting	Northing	No individuals	area	Recommendation
(LHS 9600-10900) (Both 10700-10900)					Box Woodland									
			9730	CW213	Inland Grey Box Woodland	GB	Small	Low	Within CZ	650145	6419713			
			10200-10300	CW213	Inland Grey Box Woodland	GBW	Mixed	Medium	Within CZ				200	
			10300-10500	CW213	Inland Grey Box Woodland	GBW	Mixed	Medium	Within CZ				1700	
			10600-10700 LHS	CW213	Inland Grey Box Woodland	GBW	Mixed	Medium	Within CZ				750	
			10700-10900 RHS	CW213	Inland Grey Box Woodland	GBW	Mixed	Medium	Within CZ				1400	
Road Section 9 (Both 11300-11650)	9m EL	6300	11300 RHS	CW213	Inland Grey Box Woodland	GBW	Mixed	Medium	Within CZ					
			11300-11380 LHS	CW213	Inland Grey Box Woodland	GBW	Mixed	Medium	Within CZ				656	
			11500-11600	CW213	Inland Grey Box Woodland	GBW	Mixed	Medium	Within CZ				500	
			11500-11600	CW213	Inland Grey Box Woodland	GBW	Mixed	Medium	Within CZ				500	
Road Section 10 (LHS 13700-14000)	9m EL	2700	13700-14000	CW213	Box Gum Woodland	WB	Mixed	Medium	Within CZ				1800	
Road Section 11 (LHS 14650-14950) No clearing	7.5m EL	2250	-	CW213	Inland Grey Box Woodland				Within CZ					
Road Section 12 (LHS 15500-17400)	7.5m EL	14250	15700-16900	CW138	Inland Grey Box Woodland	GBW	Mixed	Medium	Within CZ				3600	
Road Section 13 (LHS 17800-18300)	9m EL	4500	-	CW213	Box Gum Woodland	WB	Mixed	Medium	Within CZ	477176	6412597	1		
			17990-18140	CW213	Box Gum Woodland	WBW	Mixed	Medium	Within CZ				1500	
			18200-	CW225	Box Gum	BRGW	Mixed	Medium	Within CZ				1000	

Road Section	Clear Zone required	Max Desktop Required	Chainage	Veg Community	EEC	Species	Size	Habitat Value	Distance EL /CL	Easting	Northing	No individuals	area	Recommendation
			18400		Woodland	CP								
Road Section 14 (RHS 18600-19400)	7.5m EL	6000	18600-18800	CW213	Inland Grey Box Woodland	GBW	Mixed	Medium	Within CZ				2400	
			18800-19400	CW213	Inland Grey Box Woodland	GB	Regrowth	Low	Within CZ			4		
Road Section 15 (LHS 20300-20900)	9m EL	5400	20500	CW213	Inland Grey Box Woodland	GB	Large	High	9m from EL			1		Avoid.
			20520-20700	CW213	Inland Grey Box Woodland	GBW	Shrub encroaching	Low	Within CZ				360	
			20700	CW213	Inland Grey Box Woodland	WB	Small	Low	8m from EL	648891	6409970	1		
			20700	CW213	Inland Grey Box Woodland	WB	Small	Low	8m from EL	648895	6409963	1		
			20700	CW213	Inland Grey Box Woodland	WB	Small	Low	8m from EL	648934	6409894	1		
Road Section 16 (Both 20950-21200)	9m EL	6300	21100 (RHS)	CW213	Inland Grey Box Woodland	GB	Small	Low	8-10 m from EL			1		
			21100 (LHS)	CW213	Inland Grey Box Woodland	GB	Small	Low	8m from EL			1		
			21100 (RHS)	CW213	Inland Grey Box Woodland	GB	Small	Low	within 9m EL			9		
		74175												
													2.053 6	